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Docket No. N1085-00251  
Inventors: Yung-Cheng Chen et al.  
"Control Of Exposure energy On A Substrate"  
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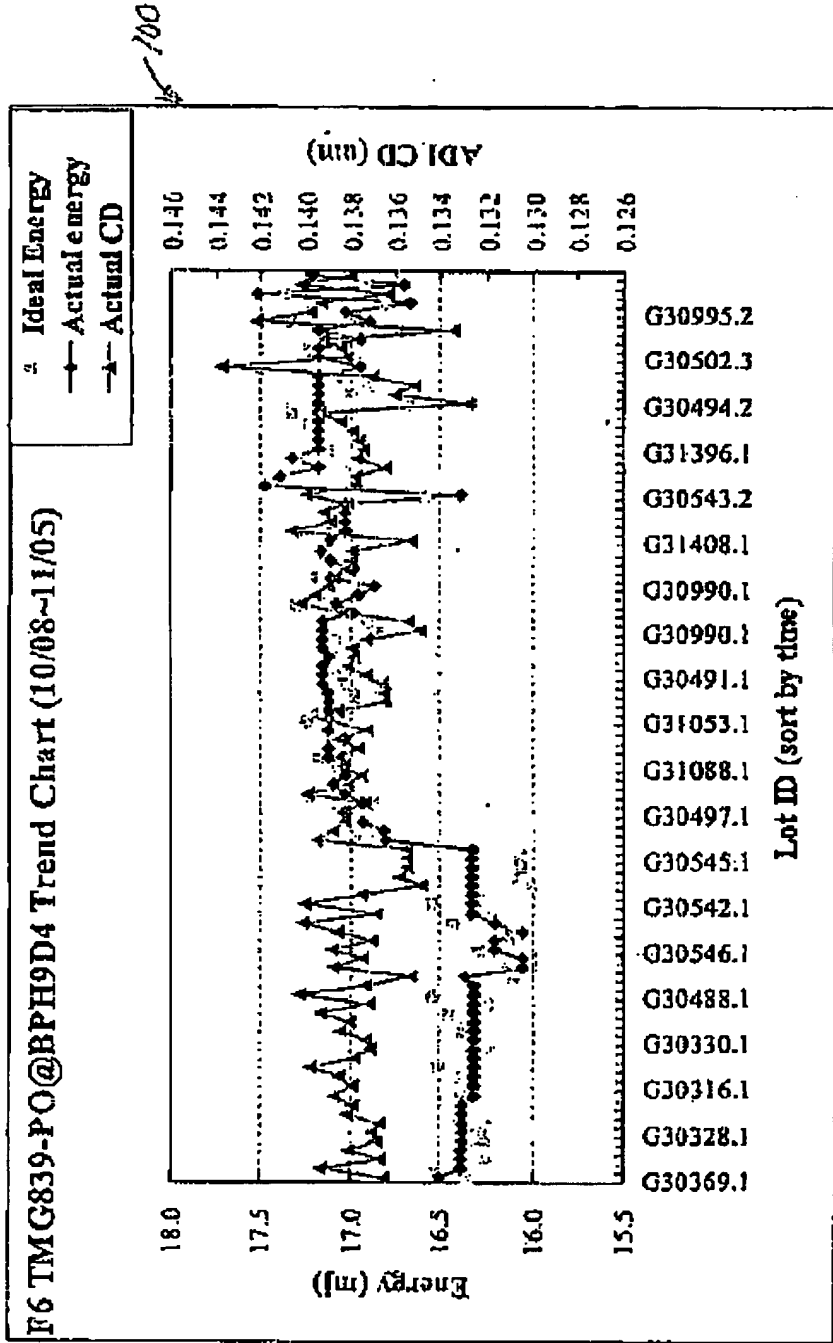


FIG. 1

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5nm/100A

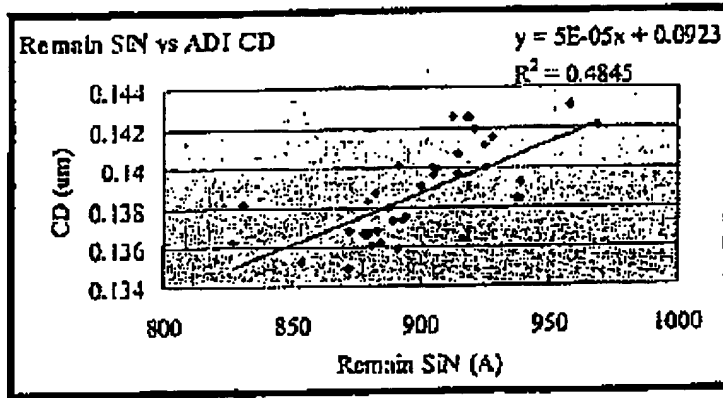


FIG. 2A

1nm/100A

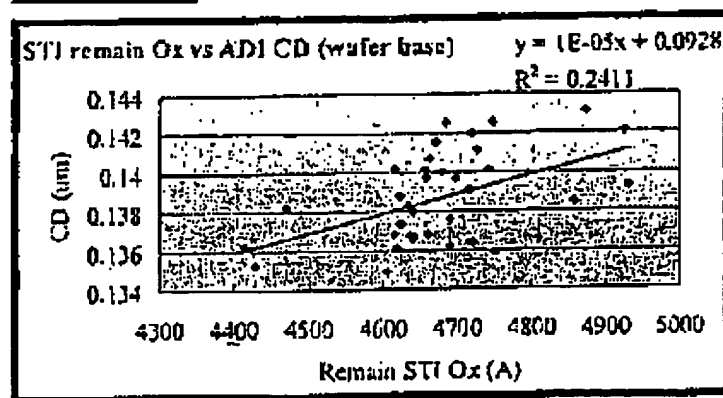


FIG. 2B

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$$CD = 5 \times 10^{-3} SIN = 0.0930$$

$$(CD - CD_{target}) = 5 \times 10^{-3} (SIN - SIN_{target})$$

$$(CD - 0.138) = 5 \times 10^{-3} (SIN - 882)$$

$$\Delta E_{ex} = 1.0 \times 5 \times 10^{-3} (SIN - 882)$$

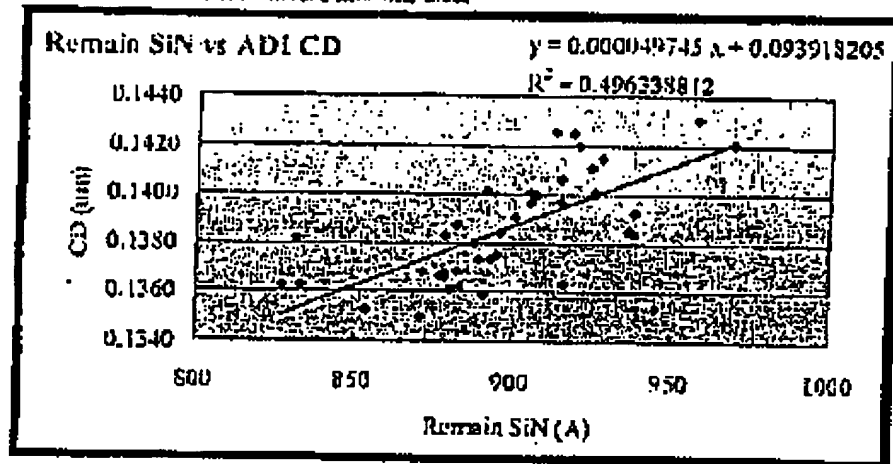


FIG. 3

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Segment 1  $\Delta CD = -0.4929 \times (SIN - 805) / 10$  ;  $SIN < 870$   
 Segment 2  $\Delta CD = 1.0545 \times (SIN - 891) / 10$  ;  $870 \leq SIN < 920$   
 Segment 3  $\Delta CD = -1.8435 \times (SIN - 942) / 10$  ;  $920 \leq SIN < 940$   
 Segment 4  $\Delta CD = 1.3408 \times (SIN - 931) / 10$  ;  $SIN \geq 940$

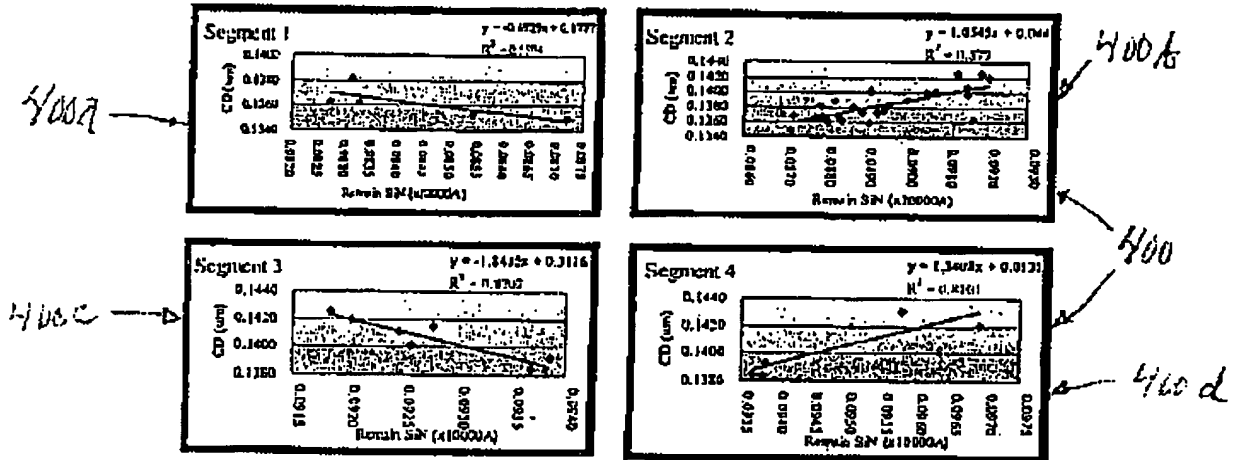


FIG. 4

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$$CD = -35485.98743 \times SIN^2 + 9437.96146 \times SIN^2 - 835.46149 \times SIN + 24.75252$$

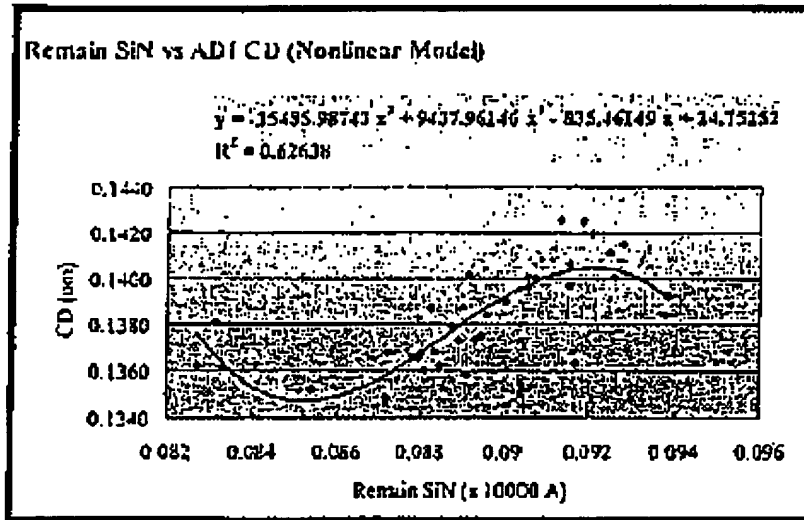


FIG. 5

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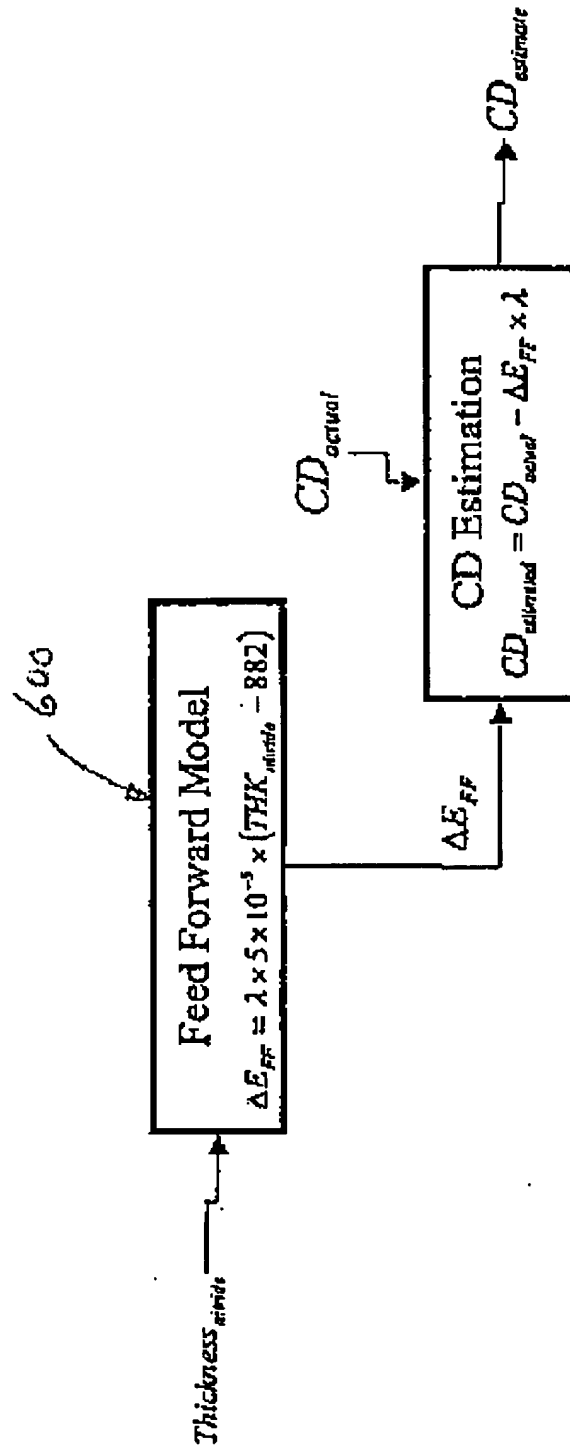


FIG. 6

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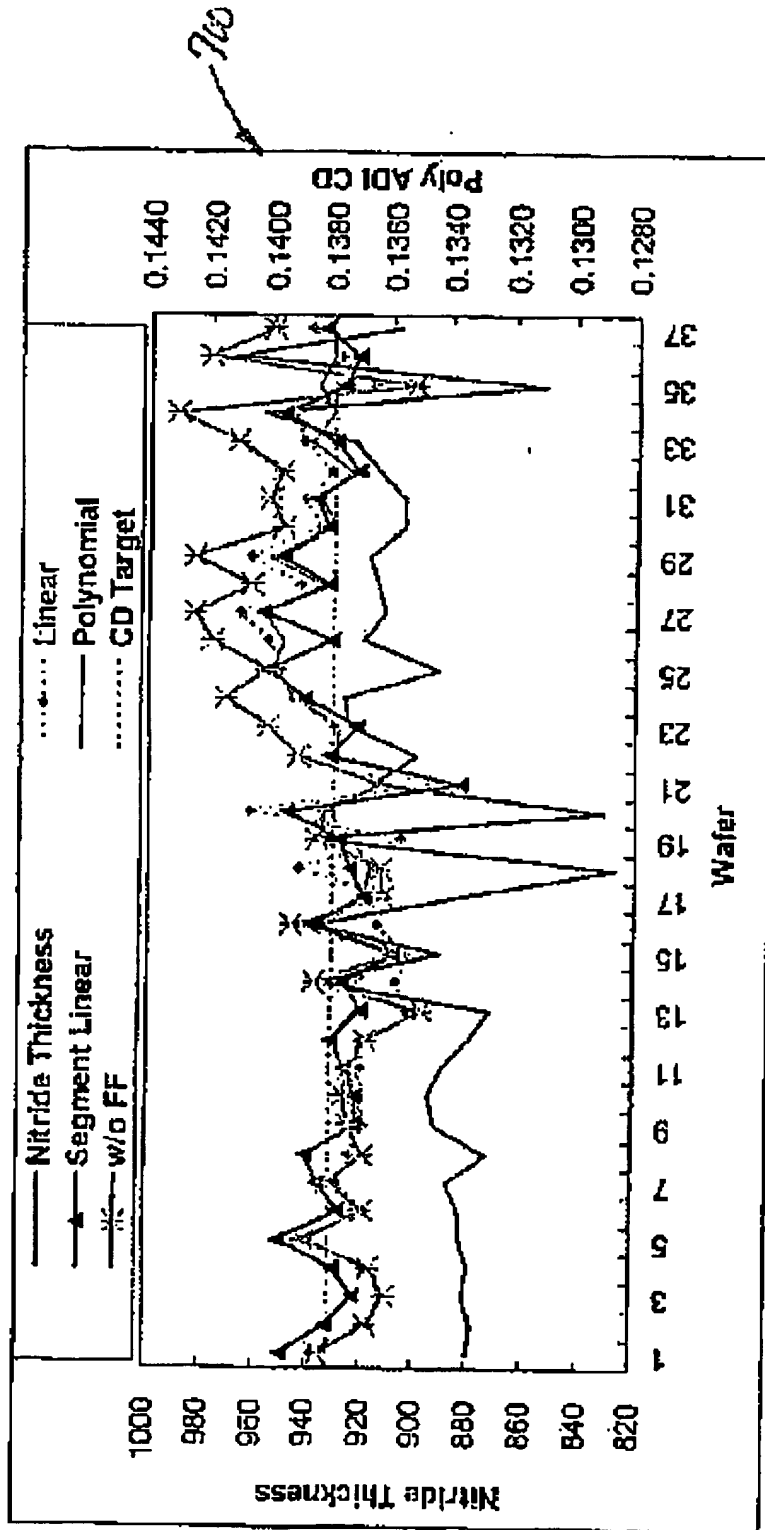


FIG. 7

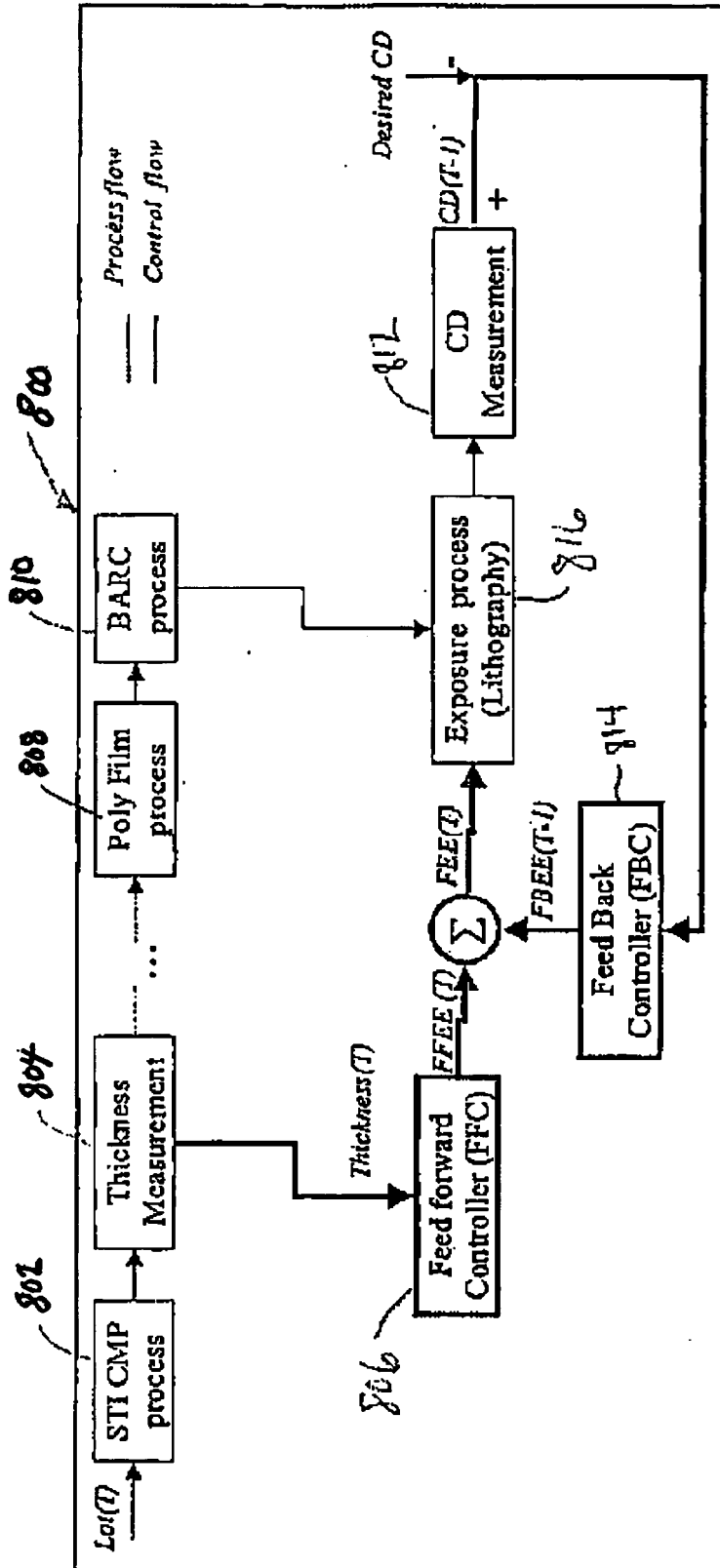


FIG. 8